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Serial No. 10/607,291
Art Unit: 2636 Examiner: Jennifer A. Mehmood
Attorney Docket No.: AMG.4017.PAT

AMENDMENTS TO THE CLAIMS

Please amend the claims as follows:

1. (Currently Amended) A system to sense when a turn signal for a vehicle is active and the vehicle is turning and indicate that the vehicle is turning by varying a frequency and/or intensity with which the turn signal blinks, signaling to other motorists that the vehicle is turning, wherein the frequency and/or intensity with which the turn signal blinks ~~[[is]]varies[[d]] based upon~~in proportion to an amount of time during which the vehicle is turning.
2. (Previously Presented) The system as described in claim 1 further comprising a microcontroller, or microcontrollers, to take switching and sensory inputs and output a pulsing sequence to a circuit of the microcontroller, or microcontrollers, that drives turn signal lamps when the vehicle is turning.
3. (Previously Presented) The system as described in claim 1 further comprising pulse generators, or other circuits where a duty cycle and an amplitude of the turn signal is dependent upon analog voltage levels, to output a pulsing sequence to a circuit that drives the turn signal lamps when the vehicle is turning.
4. (Previously Presented) The system as described in claim 1 further comprising a shaft position sensor, or other resistive, capacitive or inductive sensor, to determine an amount to alter the frequency or intensity of the turn signal.
5. (Currently Amended) The system as described in claim 1, wherein the system is adapted to adjust the turn signal frequency and/or intensity proportionally to a position of a shaft ~~and/or the amount of time.~~

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6. (Currently Amended) An apparatus to communicate a turn of a vehicle, the apparatus comprising:
 - a sensor to detect ~~[[a]]~~positions of a shaft of the vehicle;
 - a control circuit to generate an output signal, wherein the output signal varies in proportion to the positions of the shaft; and
 - a turn signal lamp to produce a turn signal based upon the output signal, wherein the output signal varies a frequency and/or intensity with which the turn signal lamp blinks in proportion to the positions of the shaft.
7. (Previously Presented) The apparatus of claim 6, further comprising a switch to activate the control circuit to indicate the turn upon activation of the switch.
8. (Previously Presented) The apparatus of claim 6, wherein the control circuit is adapted to vary a wattage to vary the frequency of the turn signal.
9. (Previously Presented) The apparatus of claim 6, wherein the control circuit is adapted to vary a wattage of the output signal to vary the intensity of the turn signal.
10. (Previously Presented) The apparatus of claim 6, wherein the control circuit comprises a pulse generator to vary a duty cycle of the output signal.
11. (Currently Amended) An apparatus to communicate a turn of a vehicle, the apparatus comprising:
 - a sensor to detect an angle of a wheel of the vehicle;
 - a control circuit to generate an output signal, wherein the output signal comprises a voltage that varies based upon the angle of the wheel; and
 - a turn signal lamp to produce a turn signal based upon the voltage of the output signal, wherein the angle of the wheel varies the ~~frequency and/or~~ intensity with which the turn signal lamp blinks.

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12. (Previously Presented) The apparatus of claim 11, further comprising a switch to indicate the turn upon activation of the switch by a driver.
13. (Previously Presented) The apparatus of claim 11, wherein the control circuit comprises a microcontroller to drive the turn signal lamp.
14. (Currently Amended) A vehicle comprising:
 - a shaft;
 - a sensor to detect [[a]]positions of a shaft;
 - a control circuit to generate an output signal, wherein the output signal varies in proportion to the positions of the shaft; and
 - a turn signal lamp to produce a turn signal based upon the output signal, wherein the output signal varies a frequency and/or intensity with which the turn signal lamp blinks in proportion to the positions of the shaft.
15. (Previously Presented) The vehicle of claim 14, wherein the control circuit comprises a pulse generator to vary a duty cycle of the output signal.
16. (Currently Amended) A vehicle comprising:
 - a wheel to turn the vehicle;
 - a sensor to indicate whether the vehicle is turning;
 - a control circuit to determine a sensor signal indicative of an amount of time that the vehicle has been turning and to generate an output signal, wherein the output signal varies ~~based upon~~ in proportion to the amount of time; and
 - a turn signal lamp to produce a turn signal based upon the output signal, wherein the frequency and/or intensity with which the turn signal lamp blinks ~~[[is]]varies[[d]]~~ based upon in proportion to the amount of time.
17. (Previously Presented) The vehicle of claim 16, wherein the sensor comprises a shaft position sensor to determine an amount to alter the frequency or intensity of the turn signal based upon a displacement of a shaft.

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18. (Currently Amended) A vehicle comprising:
 - a wheel;
 - a sensor to detect an angle of the wheel;
 - a control circuit to generate an output signal, wherein the output signal comprises a voltage that varies based upon the angle of the wheel; and
 - a turn signal lamp to produce a turn signal based upon the voltage of the output signal, wherein the angle of the wheel varies the ~~frequency and/or~~ intensity with which the turn signal lamp blinks.
19. (Previously Presented) The vehicle of claim 18, wherein the control circuit comprises a microcontroller generate a pulsing sequence to drive the turn signal lamp while the vehicle is turning.
20. (Currently Amended) A method for communicating a turn of a vehicle, the method comprising:
 - generating an output signal with a frequency that varies in proportion to [[a]]positions of a shaft; and
 - outputting a turn signal in response to application of the output signal to a turn signal lamp, wherein the turn signal flashes in relation to the frequency.
21. (Previously Presented) The method of claim 20, wherein generating then output signal comprises varying an intensity of the turn signal.
22. (Previously Presented) The method of claim 20, wherein generating the output signal comprises varying a current to drive a thermal flasher for the turn signal.
23. (Previously Presented) The method of claim 20, wherein generating the output signal comprises varying a duty cycle of the turn signal.
24. (Previously Presented) The method of claim 20, wherein generating the output signal comprises varying the frequency based upon a rotational displacement between a previous position of the shaft and the position of the shaft.

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25. (Currently Amended) A method for communicating a turn of a vehicle, the method comprising:
generating an output signal comprising a current that varies in proportion to ~~based upon an~~
angles of a wheel of the vehicle to communicate the turn; and
applying the output signal to a turn signal lamp to vary a frequency with which the turn
signal flashes ~~based upon an~~ in proportion to angles of ~~[[a]]the~~ wheel of the
vehicle while the vehicle is turning.
26. (Previously Presented) The method of claim 25, wherein generating the output signal
comprises varying a wattage applied to a blinker for the turn signal.
27. (Previously Presented) The method of claim 25, wherein generating the output signal
comprises varying a duty cycle and amplitude of the output signal.
- 28-31 (Cancelled).
32. (Currently Amended) A method for communicating a turn of a vehicle, the method
comprising:
determining an amount of time the vehicle has been moving while the wheels are turned;
varying an output signal ~~based upon~~ in proportion to the amount of time; and
applying the output signal to a turn signal lamp to produce a turn signal, wherein an
intensity with which the turn signal lamp blinks ~~varies based upon~~ in proportion to
the amount of time.
33. (Previously Presented) The method of claim 32, wherein varying the output signal
comprises varying a frequency of the turn signal.
34. (Previously Presented) The method of claim 32, wherein varying the output signal
comprises varying a duty cycle of the output signal to vary the intensity of the turn signal.
35. (Previously Presented) The method of claim 32, wherein applying the output signal
comprises applying a varying wattage to a blinker for the turn signal.

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36-40 (Cancelled).

41. (New) An apparatus to communicate a turn of a vehicle, the apparatus comprising:
a sensor to detect an angle of a wheel of the vehicle;
a control circuit to generate an output signal, wherein the output signal comprises a current that varies based upon the angle of the wheel; and
a turn signal lamp to produce a turn signal based upon the current of the output signal, wherein the angle of the wheel varies the frequency with which the turn signal lamp blinks.
42. (New) The apparatus of claim 41, further comprising a switch to indicate the turn upon activation of the switch by a driver.
43. (New) The apparatus of claim 41, wherein the control circuit comprises a microcontroller to drive the turn signal lamp.
44. (New) A vehicle comprising:
a wheel;
a sensor to detect an angle of the wheel;
a control circuit to generate an output signal, wherein the output signal comprises a current that varies based upon the angle of the wheel; and
a turn signal lamp to produce a turn signal based upon the current of the output signal, wherein the angle of the wheel varies the frequency with which the turn signal lamp blinks.
45. (New) The vehicle of claim 44, wherein the control circuit comprises a microcontroller generate a pulsing sequence to drive the turn signal lamp while the vehicle is turning.
46. (New) A method for communicating a turn of a vehicle, the method comprising:
generating a output signal comprising a current that varies in proportion to angles of a wheel of the vehicle to communicate the turn; and

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applying the output signal to a turn signal lamp to vary a frequency with which the turn signal flashes in proportion to angles of the wheel of the vehicle while the vehicle is turning.

47. (New) The method of claim 46, wherein generating the output signal comprises varying a wattage applied to a blinker for the turn signal.
48. (New) The method of claim 46, wherein generating the output signal comprises varying a duty cycle and amplitude of the output signal.